pression with versus without sleep difficulties was associated with lower utility scores ($b$=-0.04, $p$<0.001), greater work impairment (rate ratio=1.4, $p$<0.001), activity impairment (rate ratio=1.30, $p$<0.001), and more healthcare provider visits (rate ratio=1.31, $p$<0.001). **CONCLUSIONS:** Sleep difficulties, when combined with depression, are associated with lower quality of life and greater work productivity loss and health resource use than either sleep difficulties or depression alone, or neither. Greater attention to sleep problems in depression may lead to better outcomes.

PMH56

COMPARISON OF DIFFERENT COMORBIDITY MEASURES FOR PREDICTING PHYSICAL AND MENTAL HEALTH IN DEMENTIA

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**OBJECTIVES:** Comorbidity risk adjustment methods are increasingly used to reduce potential confounding in epidemiological research. We sought to compare the performances of four comorbidity measures in predicting physical and mental health among patients with dementia. **METHODS:** Nationally representative data from the 2000-2003 Medical Expenditure Panel Survey (MEPS) were used. The Elixhauser and the Charlson/D'Hoore, methods were based on the International Classification of Disease, 9th Revision, Clinical Modification (ICD-9-CM) codes whereas the Chronic Disease Score (CDS)-1 and the CDS-2 were based on prescription medications. The performances were compared using the $R^2$ obtained from linear regression models. The outcomes of interest were scores on the Medical Outcomes Short Form-12 (SF-12) Physical Component Scale (PCS) and Mental Component Scale (MCS). **RESULTS:** In linear regression models controlling for age and gender the CDS-2 performed the best ($R^2$= 0.242 for PCS, $R^2$= 0.157 for MCS) followed by the Elixhauser ($R^2$=0.238 for PCS; $R^2$=0.107 for MCS), the Charlson/D'Hoore ($R^2$=0.160 for PCS; $R^2$=0.038 for MCS)and the CDS-1 ($R^2$=0.154 for PCS; $R^2$=0.025 for MCS). Combining the ICD-9-CM based (Elixhauser) measure with the medication based (CDS-II) measure improved the $R^2$ for both PCS ($R^2$= 0.357) and MCS ($R^2$=0.250). **CONCLUSIONS:** We found that CDS-II comorbidity measurement method outperforms Elixhauser, Charlson/D'Hoore and CDS-I methods in predicting physical and mental health in dementia patients studied. Best performance, howver, was observed in the model that combined diagnoses based (Elixhauser) measure with the medication based (CDS-II) measure.

PMH57

ASSOCIATION BETWEEN WORK PRODUCTIVITY AND SEVERITY OF DEPRESSION AMONG FULL-TIME EMPLOYEES AS MEASURED BY THE WPAI & HPQ

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**OBJECTIVES:** This study examined the burden of depression on employees using measures of work productivity. **METHODS:** Individuals (≥18 years of age) employed full-time with diagnosed depression completed a Web-based computer-generated 25-minute survey in February 2010 (study population identified by Harris Interactive™). The survey used the Patient Health Questionnaire (PHQ-9) to assess depressive symptoms, and the Health and Work Performance Questionnaire (HPQ) and Work Productivity and Activity Impairment (WPAI) questionnaire to assess absenteeism and presenteeism. Higher scores represent more work missed on the HPQ (hours monthly) and WPAI (% time weekly) absenteeism scales. Higher scores on the HPQ presenteeism scale (measure of actual performance to possible performance, 0-100 scale), and lower scores on the WPAI presenteeism scale (% impairment past 7 days), represent better performance. Work productivity was assessed by depression severity using a trend test based on an analysis of covariance with age, gender and PHQ-9 score as independent variables. **RESULTS:** A total of 1051 full-time employees were evaluated (58% female, mean age 47 yrs). PHQ-9 scores indicated 423 (40.25%) employees with no depression symptoms, 319 (30.35%) with mild, 166 (15.79%) with moderate, 82 (7.80%) with moderately severe, and 61 (5.80%) with severe depression. All levels of depression were associated with decreased work productivity. Both the HPQ (presenteeism [81.04, 73.54, 68.61, 66.10, 61.48, no depression, mild, moderate, moderately severe, and severe depression groups, respectively], p<0.0001) and WPAI (absenteeism [0.92, 3.04, 4.55, 7.43, 14.00] and presenteeism [10.67, 26.17, 38.81, 44.68, 54.31], p<0.0001) showed progressive worsening of work productivity with increasing severity of depression. Pearson's coefficient of correlation for WPAI with PHQ-9 was 0.3158 for absenteeism and 0.6055 for presenteeism (p<0.0001). **CONCLUSIONS:** Depression has a significant impact on work productivity as measured by the WPAI and HPQ. Presenteeism and absenteeism worsened with increasing depression severity, and decreased overall productivity was seen at all levels of depression severity.

## Mental Health – Health Care Use & Policy Studies

PMH58

NEW DISEASE MANAGEMENT PROGRAM FOR OPIOID DEPENDENT PATIENTS DECREASES DRUG USE AND INCREASES 12 STEP MEETING ATTENDANCE: ONE YEAR RESULTS OF A RANDOMIZED CLINICAL TRIAL

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**OBJECTIVES:** Buprenorphine-medication assisted treatment (B-MAT) is clinically effective for opioid dependence (OD). Ancillary treatment services, however, may be needed to maximize treatment efficacy. The purpose of the present study was to investigate the one year effect of a disease management program on treatment outcomes among a national sample of OD patients. **METHODS:** Opioid dependent patients new to B-MAT (N=1.426) were randomized to receive either B-MAT plus a patient support program (intervention group, n = 987) or B-MAT alone (standard care group, n = 439). The intervention was a confidential, outbound, telephonic support program designed to provide new B-MAT patients encouragement and help them resolve problems inherent to early B-MAT treatment. Once enrolled in the study, all patients completed the Addiction Severity Index (ASI) and Treatment Services Review (TSR) at various time points over one year. The ASI is a semi structured interview designed to measure problem severity in seven functional areas known to be affected by alcohol and drug dependence. The TSR assess utilization of a variety of health, social, legal, employment, and family support services. **RESULTS:** Logistic regression analyses controlling for baseline problem severity and demographics revealed that intervention group subjects were significantly less likely to abuse opioids at month 12 ($p < .05$; exp ($\beta$) = 1.50), and were significantly more likely to attend 12 step/self-help group meetings for substance abuse ($p < .05$; exp ($\beta$) = 0.71) compared to the standard care group. **CONCLUSIONS:** Randomization to the disease management program resulted in a decrease in the reported use of opioids and an increase in self-help group counseling attendance. Supplementing B-MAT with a structured disease management program seems to be an effective way to improve patient outcomes. Current results replicate, and extend to B-MAT, findings from other studies of the effect of telephonic intervention programs on patient outcomes.

PMH59

DIFFERENCES IN BASELINE PROBLEM SEVERITY BETWEEN PRESCRIPTION AND STREET OPIOID ABUSERS AMELIORATED AFTER PARTICIPATION IN DISEASE MANAGEMENT PROGRAM: RESULTS AT ONE YEAR

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**OBJECTIVES:** Opioid dependence (OD) results from the continued abuse of opioids, which includes prescribed medication for pain (i.e., hyrodcodiene, oxycontin) and "street" opioids including heroin and methadone. Although patients receive the same OD diagnosis regardless of their opioid of abuse, prescription and "street" users represent two distinct patient populations, each with their own unique comorbidities and psychosocial profiles. The purpose of this study was to compare the effectiveness of a new disease management program (DMP) among the various types of OD patients. **METHODS:** A national sample of OD patients new to buprenorphine-medication assisted treatment (B-MAT) were enrolled in the study. The DMP was a confidential, outbound, telephonic support program designed to provide new B-MAT patients encouragement and help them resolve problems inherent to early B-MAT treatment. All patients completed the Addiction Severity Index at various time points over the course of the year. Patients were classified into prescription users (n = 303) and street users (heroin or methadone; n = 103) based on their reported opioid of abuse. **RESULTS:** Street users had significantly higher baseline legal composite scores (0.13 vs. 0.05; $p < 0.001$), while prescription users had significantly higher baseline medical (0.31 vs. 0.18; $p < 0.001$) and drug (0.27 vs. 0.25; $p < 0.05$) composite scores. Within-subjects tests revealed significant decreases on all three composite scores by month twelve. Additionally, group differences on the three composite scores were ameliorated by month twelve ($p$'s > .10). **CONCLUSIONS:** OD patients have a diverse range of medical, social, and substance abuse histories, making the design of any DMP for this population especially complicated. Although patients in this study evidenced two conflicting problem sets, results showed that the DMP worked equally in ameliorating the challenges faced by each group, indicating good generalizability of this particular DMP.

PMH60

BIPOLAR DISORDER RESULTS IN SIGNIFICANT BURDEN ON CAREGIVERS: ANALYSIS OF DATA FROM A LARGE MULTINATIONAL LONGITUDINAL STUDY (WAVE-BD)

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**OBJECTIVES:** WAVE-bd (**W**ide **A**mbispecti**VE** study of the clinical management and burden of **b**ipolar **d**isorder [BD]) is ongoing to address limitations of longitudinal BD studies to-date, few of which investigate caregiver burden. Objectives are to provide reliable, real-world data, including assessment of burden among caregivers (usually unpaid relatives or friends), an important consideration in BD patient management. **METHODS:** Multinational, multicentre, non-interventional, longitudinal study of patients diagnosed with BD with ≥1 mood event in the preceding 12 months (retrospective data collection from index mood event to enrollment, followed by a minimum 9 months' prospective follow-up). Patient selection provided a representative sample of BD populations in daily practice. Caregiver burden was assessed using the Burden Assessment Scale (BAS), where scores range 19–76, with higher scores indicating greater burden. Assessment was carried out once during any part of the prospective follow-up for one caregiver only per patient. **RESULTS:** To-date, 583/2880 patients (BD-I: 21.8%; BD-II: 16.8%) have attended their baseline appointment with their primary caregiver (caregiver mean age 50.2 years; 57% female). The majority of caregivers were patients' partners or parents (44.1% and 33.5%, respectively), with >10 years of education. The professional status of caregivers was: employed (47.4%), retired (22.7%), homemaker (16.6%), unemployed (5.8%) and other (7.4%). BAS scores were collected from 574 caregivers, and total caregiver burden was 47.6 ± 13.7 (n=424) for BD-I and 42.4 ± 12.6 (n=150) for BD-II